

C CITRONELLOL

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*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Agathosma betulina	Leaf Essent. Oil	--	--	--	--
Aloysia citrodora	Plant	10	70	-0.5780816771674644	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Aniba rosaeodora	Wood Essent. Oil	--	--	--	--
Asimina triloba	Fruit	0	0.024	-0.5736794143737701	--
Camellia sinensis	Leaf	--	--	--	--
Carum carvi	Seed	--	0.1	--	--
Cinnamomum camphora	Plant	--	--	--	--
Citrullus colocynthis	Plant	--	--	--	--
Citrus aurantium	Plant	--	--	--	--
Citrus limon	Leaf Essent. Oil	3700	14000	-0.9724708703903254	Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Citrus limon	Pericarp	--	--		Jim Duke's personal files.
Citrus limon	Pericarp Essent. Oil	--	--		Jim Duke's personal files.
Citrus paradisi	Leaf	--	70	-0.42686676977581944	--
Citrus reticulata	Fruit	0.4	0.8	-0.5199467377830584	--
Citrus sinensis	Fruit	0.7	1	-0.5060981097957616	--
Cnicus benedictus	Shoot	--	--		Jim Duke's personal files.
Coriandrum sativum	Fruit	0	8	-0.021396130240373637	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Coriandrum sativum	Seed Essent. Oil	6150	14620		--
Coriandrum sativum	Essential Oil	--	--		--
Cymbopogon citratus	Plant	--	--		--
Cymbopogon nardus	Plant	252	1008	1.7127531905261635	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Cymbopogon winterianus	Plant	440	770	1.1314965823053922	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Elettaria cardamomum	Fruit	14	40	2.194384347727115	--
Elettaria cardamomum	Fruit Essent. Oil	--	5000	1	--
Ephedra sinica	Shoot	--	6	-0.17688319436547048	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus albens	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus astringens	Shoot	--	105	-0.16905290057424366	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus blakelyi	Shoot	--	80	-0.17103024749122012	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus bosistoana	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus botryoides	Shoot	--	3	-0.17712047599550765	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus brassiana	Leaf	--	70	-0.42686676977581944	Singh, A. K., Gupta, K. C., & Brophy, J. J. 1991. Chemical Constituents of the Leaf Essential Oil of Eucalyptus brassiana S. T. Blake. Journal of Essential Oil Res. 3: 45-7.
Eucalyptus camaldulensis	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus citriodora	Leaf	230	4000	2.2356095710654493	--
Eucalyptus citriodora	Shoot	--	78000	5.9919646233410475	--
Eucalyptus citriodora	Leaf Essent. Oil	56000	517000	1.3754627990800758	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus cladocalyx	Shoot	--	10	-0.17656681885875425	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus dealbata	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus diversicolor	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus globulus	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus globulus	Leaf Essent. Oil	--	136000	-0.402991928689751	--
Eucalyptus maculata	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus maidenii	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus melliodora	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus moluccana	Shoot	--	70	-0.1718211862580107	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Eucalyptus occidentalis	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus oviformis	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus paniculata	Shoot	--	9	-0.1766459127354333	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus polyanthemos	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus punctata	Shoot	--	110	-0.16865743119084836	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus saligna	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus siderophloia	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus sideroxylon	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Eucalyptus tereticornis	Shoot	--	0.1	-0.1773498482378769	Zrira, S. S., Benjilali, B. B., Fechtal, M. M., & Richard, H. H. 1991. Essential Oils of Twenty-seven Eucalyptus Species Grown in Morocco. Journal of Essential Oil Res. 4: 259-264.
Foeniculum vulgare	Essential Oil	--	2800	-0.7695280515456301	Jim Duke's personal files.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Juniperus communis</i>	Leaf	--	--		--
<i>Juniperus virginiana</i>	Leaf	--	--		--
<i>Lavandula angustifolia</i>	Flower	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Lavandula latifolia</i>	Plant	1	41	-0.6489070622027685	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Melissa officinalis</i>	Shoot	0	80	-0.17103024749122012	--
<i>Mentha pulegium</i>	Plant	90	180	-0.30943366496458685	Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
<i>Mentha pulegium</i>	Essential Oil	--	9000	-0.7045093281934509	--
<i>Mentha x piperita</i>	Essential Oil	--	--		--
<i>Myristica fragrans</i>	Seed Essent. Oil	--	--		--
<i>Myristica fragrans</i>	Essential Oil	--	--		--
<i>Nepeta cataria</i>	Essential Oil	126000	126000	0.5224569028073494	--
<i>Ocimum basilicum</i>	Plant	0.2	0.2	-0.7485510521834722	Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. Die Nahrung 37:(5): 501-504.
<i>Ocimum basilicum</i>	Plant	--	0.2	-0.7485510521834722	Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. Die Nahrung 37:(5): 501-504.
<i>Ocimum basilicum</i>	Essential Oil	80000	241900	1.7378875538585694	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Origanum syriacum</i>	Shoot	0.1	0.1	-0.1773498482378769	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of <i>Origanum syriacum</i> L. Essential Oil. <i>J. Ess. Oil Res.</i> 3: 121-123.
<i>Origanum syriacum</i>	Shoot	--	0	-0.17735775762554484	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of <i>Origanum syriacum</i> L. Essential Oil. <i>J. Ess. Oil Res.</i> 3: 121-123.
<i>Origanum syriacum</i>	Shoot	--	--		Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of <i>Origanum syriacum</i> L. Essential Oil. <i>J. Ess. Oil Res.</i> 3: 121-123.
<i>Pelargonium citrosum</i>	Shoot	--	220	-0.15995710475615188	Matsuda, B. M., et al. 1996. Essential Oil Analysis and Field Evaluation of the Citrosa Plant ' <i>Pelargonium citrosum</i> ' as a Repellent Against Populations of <i>Aedes</i> Mosquitoes. <i>J. Am. Mosq. Contr. Assoc.</i> 12(1):69-74.
<i>Pelargonium graveolens</i>	Plant	21	1176	2.123051972799649	--
<i>Pelargonium roseum</i>	Shoot	--	4050	0.14297244292464362	--
<i>Piper nigrum</i>	Essential Oil	--	--		--
<i>Piper nigrum</i>	Fruit Essent. Oil	--	200	-1	--
<i>Plumeria acutifolia</i>	Flower	--	--		--
<i>Ravensara aromatica</i>	Bark	--	22		--
<i>Ravensara aromatica</i>	Leaf	--	60	-0.4336415187347031	--
<i>Ribes nigrum</i>	Fruit	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
<i>Rosa centifolia</i>	Essential Oil	1200	1200	-0.7863070769268377	--
<i>Rosa damascena</i>	Essential Oil	--	--		--
<i>Rosa gallica</i>	Flower	--	--		--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Salvia dorisiana</i>	Shoot	0	0	-0.17735775762554484	Tucker, A.O. & Maciarello, M.J. 1994. The Essential Oil of <i>Salvia dorisiana</i> Standley. <i>J. Ess. Oil Res.</i> 6: 97-8.
<i>Salvia sclarea</i>	Plant	--	--		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Santalum album</i>	Wood	--	--		--
<i>Satureja cuneifolia</i>	Shoot	40	40	-0.17419400255838247	Tumen, G. 1991. The Volatile Constituents of <i>Satureja cuneifolia</i> . <i>J. Ess. Oil Res.</i> , 3: 365-366.
<i>Satureja montana</i>	Plant	1	325	0.044693260211933414	Stanic, G., Petricic, J., and Blazevic, N. 1991. Gas Chromatographic Investigations of Essential Oils of <i>Satureja montana</i> and <i>Satureja subspicata</i> from Yugoslavia. <i>J. Ess. Oil Res.</i> , 3: 153-158.
<i>Satureja obovata</i>	Leaf	0.01	0.01	-0.474283237739046	Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of <i>Satureja obovata</i> . <i>Phytochemistry</i> 35(1): 83.
<i>Satureja obovata</i>	Leaf	--	--		Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of <i>Satureja obovata</i> . <i>Phytochemistry</i> 35(1): 83.
<i>Satureja obovata</i>	Leaf	--	--		Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of <i>Satureja obovata</i> . <i>Phytochemistry</i> 35(1): 83.
<i>Satureja obovata</i>	Leaf	--	--		Arrebola, M.L., Navaro, M.C., Jimenez, J. and Ocana, F.A. 1994. Variations in Yield and Composition of the Essential Oil of <i>Satureja obovata</i> . <i>Phytochemistry</i> 35(1): 83.
<i>Satureja obovata</i>	Shoot	1	1	-0.17727866374886578	<i>Fitoterapia</i> No.60: 277.
<i>Satureja odora</i>	Shoot	0	0	-0.17735775762554484	Zygadlo, J.A., Merino. E.F., Maestri, D.M., Guzman, C.A. and Espinar, L.A. 1993. The Essential Oils of <i>Satureja odora</i> and <i>Satureja parvifolia</i> from Argentina. <i>J. Ess. Oil Res.</i> 5: 549-51.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Satureja parvifolia	Shoot	150	150	-0.165493676123686	Zygadlo, J.A., Merino. E.F., Maestri, D.M., Guzman, C.A. and Espinar, L.A. 1993. The Essential Oils of Satureja odora and Satureja parvifolia from Argentina. <i>J. Ess. Oil Res.</i> 5: 549-51.
Satureja subspicata	Plant	40	40	-0.6513493168591583	Stanic, G., Petricic, J., and Blazevic, N. 1991. Gas Chromatographic Investigations of Essential Oils of Satureja montana and Satureja subspicata from Yugoslavia. <i>J. Ess. Oil Res.</i> , 3: 153-158.
Thymus funkii	Shoot	16	16	-0.1760922555986799	Vila, R., et al. 1995. Composition and study of the variability of the essential oil of Thymus funkii Cousson. <i>Flav. & Fragr. J.</i> 10(6): 379-383.
Thymus funkii	Shoot	--	16	-0.1760922555986799	Vila, R., et al. 1995. Composition and study of the variability of the essential oil of Thymus funkii Cousson. <i>Flav. & Fragr. J.</i> 10(6): 379-383.
Thymus serpyllum	Plant	--	--		ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
Thymus x citriodorus	Plant	30	30	-0.6757718634230563	Stahl-Biskup, E. and Holthuijzen, J. 1995. Essential oil and glycosidally bound volatiles of lemon-scented thyme, Thymus x citriodorus (Pers.) Schreb. <i>Flav. & Fragr. J.</i> 10: 225-229.
Umbellularia californica	Plant	10	40	-0.6513493168591583	--
Vaccinium corymbosum	Fruit	0.01	0.03	-0.5732639555341512	--
Vaccinium myrtillus	Fruit Juice	0.001	0.001		--
Vitex agnus-castus	Leaf	--	0.5	-0.47395127504006074	Ekundayo, O., Laakso, I., Holopainen, M., Hiltunen, R., Oguntiemein, B., and Kauppinen, V. 1990. The Chemical Composition and Antimicrobial Activity of the Leaf Oil of Vitex agnus-castus L. <i>J. Essential Oil Research</i> , 2: 115-119.
Vitis vinifera	Leaf	--	--		--
Zea mays	Leaf	--	--		Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Zingiber officinale	Rhizome	2	6500		--
Zingiber officinale	Rhizome Essent. Oil	3000	130000		--